

CLAIMS

1. (currently amended) A furan polymer impregnated wood which is obtained by impregnating wood with a polymerizable furfuryl alcohol monomer mixture comprising water, furfuryl alcohol, a stabilizer and an initiator, wherein the stabilizer is selected from the group consisting of sodium carbonate, sodium bicarbonate, sodium citrate, phosphates and water-soluble lignin derivatives, and further wherein the initiator is selected from the group consisting of maleic anhydride, phthalic anhydride, maleic acid, malic acid, phthalic acid, benzoic acid, malonic acid, ascorbic acid, boric acid, citric acid, zinc chloride, aluminum chloride, other cyclic organic anhydrides and acids, and combinations thereof, and further wherein the wood is impregnated by submerging the wood in the mixture and applying a pressure of from 1 to 10 bar, and optionally applying a vacuum.
2. (original) A furan polymer impregnated wood of claim 1, characterized in that pH of said furfuryl alcohol mixture is from 2.5 to 4.0.
3. (currently amended) A method for preparing a furan polymer impregnated wood comprising impregnating a piece of wood with a polymerizable furfuryl alcohol monomer mixture comprising water, furfuryl alcohol, a stabilizer and an initiator, wherein the stabilizer is selected from the group consisting of sodium carbonate, sodium bicarbonate, sodium citrate, phosphates and water-soluble lignin derivatives, and an initiator selected from maleic anhydride, phthalic anhydride, maleic acid, malic acid, phthalic acid, benzoic acid, malonic acid, ascorbic acid, boric acid, citric acid, zinc chloride, aluminum chloride, other cyclic organic anhydrides and acids, and combinations thereof, submerging the wood in the mixture, applying a pressure of from 1-10 bar in a pressure step, optionally applying a vacuum in a vacuum step either before or after the pressure step or both, followed by a curing step.
4. (previously presented) The method of claim 3, characterized in that said curing is performed at approximately room temperature.
5. (original) The method of claim 3, characterized in that said curing is performed by use of a

temperature in the range of from about 70°C to about 140°C.

6. (original) The method of claim 3, characterized in that said curing requires conventional kiln drying using the normal temperature schedules for drying untreated, green lumber of the same size and species as the impregnated material, with temperatures at the beginning of curing about 45°C and at the end about 90°C, with a final post-curing step between 100°C to 140°C for material with maximum hardness and dryness.
7. (previously presented) The method of claim 3, characterized in that said curing and drying are performed using high-temperature kiln schedules in the 80°C to 120°C temperature range with a final post-curing step between 120°C to 140°C.
8. (previously presented) The method of claim 3, characterized in that curing is performed by submerging the treated material in hot oil, in the temperature range of from 80°C to 120°C, with the temperature either fixed or starting lower in the range and increasing as curing and drying proceeds.
9. (cancelled)
10. (previously presented) A furan polymer impregnated wood according to claim 1, wherein the water –soluble lignin derivatives are either calcium or ammonium salts of lignosulfonic acids.
11. (previously presented) A furan polymer impregnated wood according to claim 1, wherein the stabilizer is selected from the group consisting of sodium carbonate, sodium bicarbonate, sodium citrate and phosphates.
12. (previously presented) A method according to claim 3, wherein the water –soluble lignin derivatives are either calcium or ammonium salts of lignosulfonic acids.
13. (previously presented) A method according to claim 3, wherein the stabilizer is selected from the group consisting of sodium carbonate, sodium bicarbonate, sodium citrate and phosphates.

14. (new) A furan polymer impregnated wood according to claim 1, wherein the pressure is from 5 to 10 bar.
15. (new) The method according to claim 3, wherein the pressure is from 5 to 10 bar.